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INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

S-E-C- R-E-T

25X1

COUNTRY	East Germany	REPORT	
SUBJECT	Standards for Special Steel Alloys for East German Aircraft Industry	DATE DISTR.	19 JUN 1957
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specifications for special steel alloys for the East German aircraft industry

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STATE	X	ARMY	X	NAVY	X	AIR	X	FBI		AEC						

(Note: Washington distribution indicated by "X"; Field distribution by "#".)

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SECRET

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Standards for Special Steel Alloys for East German Aircraft Industry

1. LW 1670 [redacted] "Aircraft Industry Material") 25X1

Cr-Ni-Ti- Steel 1670.70

σ_{zB} [redacted] "tensile strength") 25X1

$Sigma_{zB}$ 55 kg/mm^2

σ_s $Sigma_s$ - [redacted] "limit of expansion") 25X1

- (20) kg/mm^2 (if a rod is exposed to a pull of less than 20 kg/mm^2 the rod will return to its original shape

d_5 [redacted] (Stretching) 40%(minimum) (if explanation is needed / see reverse side →) 25X1

Content of Alloy

C less than 0.14%

Si " " 1.0

Mn " " 1.5

P " " 0.035

S " " 0.020

Cr

Ti " " 0.8

Cr between 17.0 and 20.0%

Ni " 8.0 " 11.0%

Hardening with water at 1100° - 1150° Centrigrade

Must be corrosion proof, will not [redacted] (flake) at high temperatures, must have high resistance against intercrystalline corrosion 25X1

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Used for exhaust studs, mufflers, gas conduits for turbocompressors.

2. LW 1740

Cr Mn Ni Si V Mo Steel

LW- Number

1740.02	1740.01	1740.90
rods up to	forged pieces	(up to 60 ø)
10 to 60 mm ø		special treatment*
hot rolled	forged	
Brinell hardness ≦ 310	≦ 310	(269 - 350)

Chemical composition in %

C	Si	Mn	P	S	Cr	Ni	V	Mo
0.38 to 0.47	0.9 to 1.4	6.0 to 8.0	≦ 0.045	≦ 0.02	14.0 to 16.0	6.0 to 8.0	1.30 to 1.90	0.65 to 0.95

Must be heat proof, flake proof at high temperatures, and corrosionproof.

* Must be hardened at 1170° to 1190° C in water or air, then must be reheated for 8 - 10 hours at indicated temperature: 790° - 810°C.

3. LW 1660

[redacted] - Steel

	1660.75	1660.72
	sheets 1 to 4 mm	sheets 5 - 10 mm
$Sigma_{zB}$	58	55
$Sigma_{s}$	(27)	(25)
d_5	40	40
hardened at	1030°-1070° C, water or air	1080°-1130° C, water or air

25X1

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Chemical composition in %

C	Si	Mn	P	S	Cr	Ni
≤	≤	≤	≤	≤	22.0	17.0
0.18	1.0	1.5	0.035	0.030	to 25.0	to 20.0

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must be corrosion proof, heat resistant, flake proof

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used for combustion chamber parts and jet parts

4. LW 1725

Cr Ni W - Steel

	1725.22	1725.21	1725.90
	10 - 100 mm Ø	Forged pieces	up to 100 mm Ø
	hot rolled		special treament
			harden with water 1050-1100°C
Brinnell			reheat at 750.820°C five hours
Hardness	163-241	163-241	(179-269)
degree			

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Chemical composition in %

C	Si	Mn	P	S	Cr	Ni	W	Mo
0.4	0.3	≤	≤	≤	13.0	13.0	2.0	0.25
to	to	0.7	0.030	0.020	to	to	to	to
0.5	0.8				15.0	15.0	2.75	0.40

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non-magnetizable; good to medium stability against lead compounds at high temperatures.

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used for interior cooled exhaust valves und uncooled intake valves of aircraft engines